ART. VI.—ON MENTAL VERTIGO.

BY M. LE PROFESSOR LASEGUE.

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THE name "vertigo" that I have selected for want of a better one, is not susceptible of definition. It is so in common with all the terms intended to express subjective states, and which are necessitated to us by our patients.

As an involuntary collaborator of the physician, the patient states sensations of which he is the sole judge. If, instead of using his own nomenclature, he borrows our own, he gives it significations, perhaps, not used by us. It has been said that no one can have another's headache; in like manner it is scarcely easy to represent the nature and degree of the pain complained of by another person: we take them for a term of comparison, an impression that we may suppose ourselves to have felt, or we content ourselves with a formula that appertains to the habitual vocabulary of the patient, although it conveys to us only a rather confused idea.

It is thus in conforming to this logical procedure, defective but unavoidable, that I have chosen the simple vertigo produced on the summit of a tower or in some elevated place to render comprehensible, the very different complex states which form the subject of this communication.

Vertigo is certainly due to a visual impression. A man led with bandaged eyes on the most dizzy heights feels no discomfort. The experiment borrowed from the circus horses which move in the *manége*, and which only resist the condition of being momentarily blinded, is not less classic nor decisive.

The subject of vertigo has only a very confused consciousness of the visual trouble; and he attaches the less importance to it, since by closing his eyes he in no way betters the situation. Often, on the contrary, the closure of the eyes only exaggerates the uneasiness; to close the eyes after having un-

dergone the sensory test is, moreover, not a matter of indifference. Persons that are so predisposed, can produce a vertigo by alternately opening and closing the eyes while fixedly regarding any object.

The vertiginous sensation which I have taken for example, may be summed up almost entirely, as a feeling of *malaise*, generally, extremely painful, easy to analyze and consequently, to describe. There is first, a feeling of precordial or epigastric pain, apparently of compression, rather characteristic and constant, since it is met with at the beginning of most attacks; next there is a sensation of collapse, of imminent danger of fainting, with more or less of weakness and tremor of the lower limbs; "the ground," they say, "fails beneath their feet," and the expression is well conceived. Next may occur a secondary visual trouble, consisting in a sort of dimness, or cloudiness, like that experienced at the beginning of most fainting fits. The giddiness, and the gyration of other kinds of vertigo are not produced. The patient, for he is already an invalid, readily distinguishes the difference between his condition and that produced by rotation or the movement of a vessel. In these last, the sense of equilibrium is specially involved, but should it go so far as to produce gastric spasm it does not involve an equal amount of general *malaise*.

The moral disturbance, more or less comparable to fear, soon becomes the dominant symptom. It reveals itself by all the phenomena consecutive to terrifying impressions, pallor of the face, thoracic constriction, respiratory difficulty, retraction of the scrotal integument, algidity and diffuse or partial cold sweats. It appears, as far as the patient is able to analyze his symptoms, to be composed of fear of a fall and also of fainting which may compromise life.

Reason, even when aided by the encouraging words of assistants, has lost all its resisting power. There is no danger, if a high solid balustrade protects against the possibility of accident, the patient recognizes the fact, yet he cannot free himself from his mental trouble.

One of two things may now occur, either the patient remains motionless, being unable to stir, or he feels an impulse, which causes him if not restrained, to throw himself down

the height. These two contradictory states correspond to what we shall call respectively, active and passive vertigo. The last of these is the one of which we have, at present, to speak.

The succession of phenomena I have described, develops with variable rapidity; in some cases the steps are so rapid as to pass unperceived. In all cases the mental impression is the dominant fact, the one of which all the patients preserve a painful recollection, not one of the moral impressions escapes them, and it is not necessary, in order to appreciate the symptoms as told by them, to have witnessed an attack.

In analyzing the facts to be ultimately utilized we find: (1) that the mental anxiety is always preceded by physical symptoms; (2) that it is not proportional to the intensity of these symptoms; (3) that it is conscious but irresistible; (4) that it reveals itself at once without having been preceded by any deliberation or reflection to justify it; (5) that once aroused it follows an inevitable course, and finally, that its subject cannot resist it even though he recognizes its unreasonableness and absurdity.

As it is possible, as we know from daily experience, to be on a height without feeling the slightest sensation of vertigo, so inversely it is not needful, always, to be in such a situation to experience these symptoms.

One whole category of intellectual perversions exists, which can only be understood and classified under the condition of being brought under the type of vertigo, of which I have indicated the principal features. It is to this class of affections that I have given the name of *mental vertigo*, indicating by this title that the disease is constituted by a physical *malaise* definable, if not defined, and by a moral disturbance which may go as far as delirium or insanity.

All these vertiginous conditions, though similar, are not identical, and we are obliged to classify them under different heads according as this or that element predominates.

In a first category, the visual point of departure is manifest, and the patient is the first to notice it, but the initial trouble varies according to the subject. A young woman may not be able to see herself in a mirror without being affected with a

physical and intellectual disorder. Her limbs refuse to support her, she is forced to sit down, and experiences a faintness which, if increasing, reaches complete syncope. At the same time occur mental perversions, always of the same kind. She asks if she is the object she has seen, and has strange doubts as to her personality. The crisis does not cease at once with the sudden suppression of the visual impression, but disappears gradually.

Another person is unable, at certain hours of the day, to close the eyes suddenly without experiencing a precordial pain, a sense of suffocation, together with a fear of being hurled backward by an involuntary movement. Many feel, under diverse forms and in different degrees, this painful sensation at the moment of the transition from wakefulness to sleep, by the mere fact of the closure of the eyes; some declare that the sensation is exactly the same as that they experience on an elevation. I should say here that all the patients, whatever their special type, readily become dizzy from altitudes.

Not only do they preserve full consciousness of their situation during the attack, but their faculty of observation is rendered more acute. Not a single psychic phenomenon escapes them; they relate the most trivial incidents with remarkable fidelity. We are not obliged to inform them that their sensations are illusory. They are aware, moreover, from their own experience that the attacks are not dangerous, but on their repetition, they have diminution in their discomfort and apprehensions. In these, as in other vertigos, the patients fail to be accustomed to them, and they are not alleviated even after long continuance.

In cases rather less simple, which from the transition towards the more severe types, the visual act is limited to a single object; at the sight of a pin, a candle, a piece of glass, or an animal, the patient enters upon an attack. The physical manifestations do not differ from those I have described; the mental condition is more characteristic. On the first occasion the patient feels a sensation of vertiginous discomfort in the presence of this or that object; a sudden internal commotion; affrighted he asks himself if that pin, that candle, or

that animal is not the cause of the discomfort. From that moment, each new *rencontre* causes the trouble anew.

The patient is then in the condition of the subject of vertigo from altitudes, who knows already by experience to what he is exposed by ascending them, and is afraid of his own weakness. But the latter has still the consciousness of being able to avoid occasions for his attacks, while the other, on the contrary, is compelled to undergo risks altogether unforeseen and which it is often impossible to avoid. Hence a disquietude which becomes an element of the disease, more or less continuous between the attacks. I will mention farther on the results of this condition.

The second class, much more comprehensive and important, contains those patients in whom the visual stage either does not exist or passes altogether unperceived. The crisis begins or appears to begin with general troubles and the mental vertigo which overmasters the other symptoms.

If, instead of referring to the symptomatology of vertigo in these cases, we limit ourselves to a superficial examination of them, we find delirious or *bizarre* conceptions that escape classification. If, on the other hand, we seek out the characteristics of vertigo, we find them distinct enough to form a definite pathological species, with its own diagnosis and prognosis, following a regular course, and in it the delirium only a phenomenon of the second order.

All the sufferers, without exception, state, if we question them in regard to this point, that their disorder begins rather suddenly, but ceases, in most cases gradually. This corresponds to what we observe in simple vertigo.

The initial discomfort is precordial or epigastric at the beginning but it soon becomes generalized. While his external aspect may or may not be changed, the sufferer feels a sensation of profound internal *malaise* which he is unable to overcome. He distinguishes this special sensation from all previously experienced sufferings or faintnesses in the course of an illness, or under the influence of an emotion produced by chagrin or misfortune.

Sooner or later, often at the very beginning, the mental vertigo absorbs the patient's attention. I would call your atten-

tion expressly to its march, its varieties and its intensity.

Whatever the nature of the previous circumstances, the pathognomonic character of this mental vertigo is to appear suddenly, to be independent of the past, and to have reference only to the future.

The usual physiological fear is not like this in excluding the idea of the past. The individual who dreads to traverse a lonely forest by night, stimulates his imagination and even altogether creates his fear by recalling the stories that crowd his memory. According to his age, his education and his disposition, he fears spectres, robbers, or snares. The persecuted maniac lives in the recollection of the evidences of hostility that he has obtained, and he dreads the object of his fears on account of an experience he supposes he has acquired. When we ask him how he feels, he answers always with reference to the past, and only consents to look forward to the future by the light of past experience. He fears that the miseries he has already a hundred times experienced will return; his prevision is altogether retrospective.

The case is otherwise with the sufferer from vertigo. The suddenness and unforeseenness of the attack exclude deliberation, recollections cannot be invoked since his condition has no antecedents. His intellectual activity is concentrated on a vague, confused future, which, in the more advanced forms, seems more definite, without however, becoming actually so. Its formulæ are at base the same, though at first sight they seem singularly varied.

It is one of the defects of pathological psychology that it gives to expressed ideas an importance that belongs only to the mental states that have produced them. Whether a patient dreads being ruined, disgraced, condemned, or threatened with a mortal disease, he obeys a morbid disposition identical in each case in the point of view of the physician, diversified as it appears to the moralist. Medical research should therefore be directed first to the intellectual operation, and secondarily to its products.

The vertiginous patient, thus reduced to prevision solely, without even an insane point of support, follows a monotonous circle. If we are allowed the expression, we might say that he

is under an attack of intellectual vapors; he dreads an indefinite misfortune, from which he cannot escape, and which involves his property, friends and children. The subject of the anxious form of alcoholic vertigo experiences analogous sensations; he does not know what he dreads, but he dreads the future all the same, and deems escape impossible. It being impossible for him to have any exact notion himself of the danger he anticipates, how can he explain it to others?

In this disorder, in which no delusion exists, since there is no definite idea produced, the reason has nothing to work upon. The sufferer, perfectly conscious of his apprehension, remains powerless to control it. What arguments can be invoked against a distress magnified by fear? The individual anticipating the worst possibilities, admits their contradiction, justifying his right to be apprehensive; if he is content to be in a state of dread, the ablest counsel will not prove to him that he is wrong.

In the presence of one who declares himself at the point of collapse or of imminent death, the physician has at command only inconclusive generalities; thus he may remind the patient that he has experienced similar distress a hundred times previously, and that it rapidly disappeared. But the same consolation applies to syncopal and cardiac crises, and to angina pectoris, and what assurance have we in these cases that the one hundred and first attack will be harmless. The patient suffering from a distress equal each time to what it was on previous occasions, experiences the same disquietudes each time. He is thoroughly persuaded that he cannot find reason for becoming tranquilized, hence he remains obstinately tormented as long as he remains vertiginous.

The intelligence is not involved in this delirium. Many anticipate objections and do not recognize to what extent their fears should appear absurd. The vertiginous delirium is an affair of sensation and sentiment.

From the moment when the intellectual faculties are put out of the question the prognosis improves; the perversions of sentiment have not the same gravity as those of understanding. During the more or less prolonged intervals of respite, the patient is capable of the most productive efforts of the intelli-

gence. Events of the most serious nature, which do not provoke the vertigo, find him firm, resistant and brave. The duration of the affection does not bring on any progressive intellectual deterioration, but it also does not have as a necessary effect a diminution of the susceptibility to vertigo.

The causes of these crises of sentimental vertigo, without participation of the intelligence, are numerous, but nevertheless, less so than has been thought. They may be summed up in the impression that provokes an improbable but not impossible peril. Reasonable apprehension, nevertheless, plays no part in their production; the same person who cannot enter a railroad car without vertigo is not troubled by a runaway horse. The one who fears solitude in his own house has no dread of it when away from home. The vertiginous hypochondriac, and they are nearly all, if not all, such, endures the severest sufferings if they are only not accompanied with vertigo.

The semeiology of these so painful states is precise. It may be condensed in this formula: the *malaise* of apprehension is the result of a physical *ictus*; every time this is lacking the crisis does not occur. The distress is the same as that of vertigo caused by visual impressions; it causes an anxious trouble of variable intensity, in which the intelligence does not partake, either to aggravate or restrain it. The individuals subject to mental vertigo are habitually liable to the vertigo of altitude, but the reciprocal proposition is not valid. The vertiginous apprehension is limited, always provoked by the same or a similar cause; it corresponds neither to an aptitude nor to a habit. It is not based upon reason, and consists in an always confused anticipation.

I have thus described summarily, too much so perhaps, the purely sentimental form of nervous vertigo, clear of any delirious complication. This description is only the introduction of a very delicate investigation.

In the elementary crises that have been described, the intelligence is un-implicated; in others, the intelligence takes a part; it gives a form to the sensations; it comments on and explains them.

The patient's insanity takes one of two forms: either the

fear of impending evil keeps him in perpetual anxiety, he employs himself in imagining events that are to come, classifying and awaiting them; or, going back to the cause of his troubles, he forms, as we often observe in the insane, an imaginary etiology of his disease. Fundamentally, the intellect is only slightly involved, and the perversions it undergoes are limited to themselves.

Mental vertigo accompanied with delirium, needs a lengthy exposition, and I must content myself here with this preface to the study of delirious vertiginous conditions.

ART. VII.—A CASE OF POISONING BY COAL GAS.

BY DR. RANSOM DEXTER.

EARLY in the morning of the 24th of May last, I was summoned to see Miss Ella R., a servant girl, who had retired the night before, after closing her room, bolting the door, and, as she supposed, turning the gas off; but in reality, from there being no stop to the key, she turned it too far, thus putting the flame out, and re-opening the gas burner as before, to the fullest extent. The room was small, and its atmosphere in the morning was heavily charged with the gas. The patient, on being called, did not respond. Her employer, on nearing the door, smelled gas, rapped, but no answer; listtened, heard stertorous breathing, burst in the door, and found the girl, as he said, unconscious, and frothing at the mouth.

When I arrived at the bedside I found her in the following condition, namely: the patient was in such a state of asphyxia as to render her respiration feeble; frothing at the mouth; the surface of the body was cold, the circulation so reduced as to render her pulse hardly perceptible at the wrist; the sounds of the heart were scarcely audible; she was entirely